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EXAMINER

HONG, JOHN C

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,479

Applicant(s)

BENNETT ET AL.

Examiner

John C. Hong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-114 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 81-114 is/are allowed.
- 6) ☒ Claim(s) 1-54 and 56-80 is/are rejected.
- 7) ☐ Claim(s) 55 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20020510</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “cylinder sleeve assembly” in claim 21 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-4, 11, 14-17, 21, 25-33 and 72-78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 2, line 1, “fluid control means” lacks antecedent basis.
- Claim 3, line 2, “the fluid control means” lacks antecedent basis.
- Claim 3, line 2, “n the reservoir” is not understood.
- Claim 4, line 1, “said means for sliding” lacks antecedent basis.
- Claim 11, line 3, “said reservoir interior” lacks antecedent basis.
- Claim 14, line 3, should “with respect the main piston” be -- with respect to the main piston--?

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- Claim 15, line 4, “said first manifold” lacks antecedent basis.
- Claim 16, line 5, “said second fluid reservoir” lacks antecedent basis.
- Claim 16, lines 6 and 7, “the connection” lacks antecedent basis.
- Claim 21, lines 2 and 3, “said cylinder wall” lacks antecedent basis.
- Claim 25, lines 3 and 4, “said first main piston” lacks antecedent basis.
- Claim 25, lines 6 and 7, “said second bore” lacks antecedent basis.
- Claim 26, line 14, “said hydraulic fluid tube” lacks antecedent basis.
- Claim 27, line 3, “the fluid pressure” lacks antecedent basis.
- Claim 28, line 3, “said fluid reservoir” lacks antecedent basis.
- Claim 28, lines 3 and 4, “said first main piston” lacks antecedent basis.
- Claim 28, lines 6 and 7, “said second bore” lacks antecedent basis.
- Claim 30, line “said module” lacks antecedent basis.
- Claim 30, line 12, should “said piston” be -- said pistons--?.
- Claim 30, line 15, “said second valve” lacks antecedent basis.
- Claim 32, line 2, “the lower portion “ lacks antecedent basis.
- Claim 32, line 3, “the upper portion “ lacks antecedent basis.
- Claim 33, line 2, “said second valve” lacks antecedent basis.
- Claim 72, line 10, “the tops” lacks antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1,3-5,7-12,14,18,21,22 ,24,34,35,42,51,52,56-60,65,66,68, 72,79 and 80 are rejected under 35 U.S.C. 102(b) as being anticipated by Kirii et al. (U.S. Patent 5,687,598).

Regarding Claim 1-8, Kirii et al. discloses a tooling fixture comprising:

a fixture block (14,16) containing a plurality of parallel cylinders formed therein(Figs. 1,4,6) ,
a plurality of piston assemblies slideably fitted into the plurality of cylinders such that
a portion of the piston assemblies (24) can extend from the surface of the fixture block
when the piston assemblies slide within the cylinders; at least one fluid reservoir (32) connected
in flow communication with the cylinders below the pistons; and means (52) for reversibly
forcing fluid from the reservoir into the cylinders, wherein the means for sliding the main
piston within the reservoir comprises a source of pressurized fluid connected to the reservoir
interior at a location, with respect to the main piston. opposite the connection between the
reservoir and the cylinders; wherein the drive unit comprises a hydraulic cylinder connected to
said main piston via a rod; means connected between the fluid reservoir and said cylinders for
controlling the flow of fluid therebetween; and the means for controlling the flow of fluid
comprises a pressure-sensitive shut-off valve that automatically stops the flow of fluid
into the cylinders when the pressure exerted by the fluid reaches a predetermined
value (col. 18, line 55-col. 19, line 54).

Regarding Claim 9, Kirii et al. disclose a device comprising : a base 18 ; a support
module (bolster 14 and carrier 16 , Fig. 1) mounted on the base and comprising: a plurality of
parallel cylinders 26 formed aligned in at least one row (col. 14, lines 3 and 38) and at least one
communication 35 (manifold) connecting the aligned row of cylinders (Figs. 1 and 4); at least

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one pressure adjusting cylinder **38** (fluid reservoir) connected in flow communication with the manifold; a plurality of piston assemblies slidably fitted into the plurality of cylinders **26** such that a portion of the piston assemblies **24** can extend from the surface of the bolster **14** (module body) when the piston assemblies slide within the cylinders (Fig. 1, col. 14, lines 17); and means **62,48** for reversibly forcing fluid from the reservoir into the manifold and from the manifold into the cylinders. (Fig. 4, col. 19, lines 21-36).

Regarding Claim 10, Kirii et al. disclose the means for forcing fluid from the reservoir **38** comprising a main piston **48** slidably fitted within the reservoir, and means **62** for sliding the main piston within the reservoir (Fig. 4; col. 19, lines 21-36).

Regarding Claim 11, Kirii et al. disclose the means **62** for sliding the main piston within the reservoir comprises a source of pressurized fluid connected to the reservoir interior at a location, with respect to the main piston, opposite the connection between the reservoir and the manifold. (Fig. 4, col. 19, lines 21-36)

Regarding Claim 14, Kirii et al. disclose the means for sliding the main piston further comprises a source of negative pressure connected to the reservoir interior at a location, with respect to the main piston, opposite the connection between the reservoir and the manifold. (col. 19, lines 26-28, “the piston is moved by flows of oil **into and from** the pilot chamber **64** by the pressure regulating device **62**” is considered as applying a negative pressure.)

Regarding Claim 18, Kirii et al. disclose means **76** (Fig. 4) connected between the fluid reservoir and the at least one manifold for controlling the flow of fluid therebetween.

Regarding Claim 22, Kirii et al. disclose a piston assemblies comprise a piston, and a rod **24** of lesser diameter than the piston secured to a surface of the piston. (Fig. 4)

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Regarding Claim 24, Kirii et al. disclose the means of controlling the flow of fluid comprises a pressure-sensitive shut-off valve 68,74 that automatically stops the flow of fluid into the cylinders when the pressure exerted by the fluid reach a predetermined value. (col. 19, lines 39-54)

Regarding Claim 34,35 and 42, Kirii et al. disclose a tooling fixture for supporting a workpiece, comprising (Fig. 4): a module body having a flat top surface with a plurality of apertures, and a first fluid reservoir cavity formed therein; a plurality of rods slideably mounted in the apertures of the top surface and extending into the first fluid reservoir cavity, a second fluid reservoir integrally formed with the module body and connected in flow communication with the first reservoir (44) ; a main piston (48) slideably fitted in the second fluid reservoir (32) ; means for controlling (76) the flow of fluid from the second reservoir to the first reservoir; and means for sliding the main piston within the second reservoir, wherein the means for controlling the flow of fluid comprises a control valve assembly connected between the first and second reservoirs and in flow communication therewith.

Regarding Claims 51, 52, 56-60, 63, 65, 66 and 68, Kirii et al. disclose a fixture with a source of fluid (accumulator) (44), fixture block (34), a pressure sensor (80) connected with cylinders, a plurality of cylinders (26), a valve (38) connected with source of fluid and with cylinders, a plurality of pistons (32) with end caps (see Fig. 1), a controller (76) connected with pressure sensor and valve ,closes the valve when the pressure of the fluid in the cylinders reaches a predetermined threshold (col. 10, lines 59 .62) and the controller is a programmable controller executing programmed instructions stored in a memory (col. 19, lines 47 and 48).

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Regarding Claims 72 and 79, Kirii et al. disclose a method of supporting a workpiece, comprising the steps of:

providing a fixture block proximate to the workpiece, the fixture block including a plurality of pistons disposed in a respective plurality of cylinders. ends of the pistons extending through a surface of the fixture block;

opening a valve connecting the plurality of cylinders with a source of hydraulic fluid;

applying a first force to the source of fluid to move the fluid out of the cylinders to pull the pistons toward the bottoms of the cylinders;

moving the fixture block to a predetermined distance from the workpiece,

applying a second force to the source of fluid to move the fluid into the cylinders to drive the pistons toward the tops of the cylinders. wherein ends of the pistons are

extended from the surface of the block and contact a surface of the workpiece;

sensing a pressure of the fluid within the cylinders; and when the pressure reaches a predetermined threshold; and closing the valve (Fig. 4; col. 18, line55-col. 19, line 54).

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham, 2 USPQ 2d 1647 (1987)*.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2,6,13,20,23, 36-41,43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al. .

Regarding Claims 2,6,13,36-41 and 43-45 Official Notice is taken that utilizing a pneumatic cylinder connected to a main piston via a rod is old and well known in the art and utilizing the hydraulic/pneumatic cylinder on the tooling fixture of Kirii et al. would have been obvious to one of the skill in the art at the time of the invention was made so as to control the cylinder movement.

Regarding Claims 20 and 23, Kirii et al. disclose cavity or tube 44 (Fig. 4) except for they are integrally attached to the module body, but it would have been obvious to one of ordinary skill in the art at the time of the invention was made to integrally attach the cavity or tube of Kirii et al. to the module body 16, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art.

Howard v. Detroit Stove Works, 150 U.S. Patent. 164 (1893).

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al. as applied to claim 9 above, and further in view of Kobelt (U.S. Patent 3,795,110).

Kirii et al. teach the limitations as claimed above with the exception of the means for controlling the flow of fluid comprises a one-way check valve and a pneumatic valve in parallel combination.

Kobelt teaches the means for controlling the flow of fluid comprises a one-way check valve 40 and a pneumatic valve 31 in parallel combination (Fig. 1, claim 9) in order to provide a

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fluid control circuit which employs a single energizing volumetric accumulator actuated from a plurality of stations. (Fig. 1; col. 1, lines 52-55)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the means for controlling the flow of fluid comprises a one-way check valve and a pneumatic valve in parallel combination, as taught by Kobelt on the tooling fixture of Kirii et al. so as to provide a fluid control circuit which employs a single energizing volumetric accumulator actuated from a plurality of stations.

9. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al. as applied to claim 9 above, and further in view of Seki et al. (U.S. Patent 4,635,466).

Kirii et al. teach the limitations as claimed above with the exception of : a second manifold in the module body connecting the cylinders in each row, the second manifold being located on an opposite side of the piston assemblies from a first manifold; and a second source of pressurized fluid (pneumatic pressure) connected the second manifold.

Seki et al. teach a second manifold **28** in the module body **1** connecting the cylinders **7** in each row, the second manifold being located on an opposite side **8** of the piston assemblies **11** from a first manifold; and a second source of pressurized fluid (pneumatic pressure) connected the second manifold (Fig. 1, col. 2, lines 26-36; 51-60) in order to provide a die cushion apparatus in which not only a die cushioning capability can be precisely controlled but also a die cushioning capability during a working process can be variably controlled. (col. 1, lines 39-43)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize a second manifold in the module body connecting the cylinders in each row, the second manifold being located on an opposite side of the piston assemblies from a first

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manifold; and a second source of pressurized fluid (pneumatic pressure) connected the second manifold, as taught by Seki et al. on the fixture of Kirii et al. so as to provide a die cushion apparatus in which not only a die cushioning capability can be precisely controlled but also a die cushioning capability during a working process can be variably controlled.

10. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al. .

Kirii et al. teach a device comprising : a base **18** ; a support module (bolster **14** and carrier **16** , Fig. 1) mounted on the base and comprising: a module body **16** containing a plurality of cylinders **26** formed therein in at least one row (col. 14, lines 3 and 38) and interconnected at their lower ends by at least one communication **35** (manifold). (Figs. 1 and 4); a hydraulic pressure tube **38** connected to the module body and in flow communication with the manifold and containing a main piston **48** therein (Fig. 4); a control valve assembly **76** connected between the hydraulic pressure tube and the manifold for controlling the flow of fluid therebetween (Fig. 4); a plurality of pistons slidably fitted into the plurality of cylinders **26** such that a portion of the pistons can extend from a surface of the module towards the workpiece when the pistons slide within the cylinders. (Fig. 4; col. 14, lines 6-26)

Kirii et al. fail to teach the hydraulic pressure tube integrally connected to the module body, but it would have been obvious to one of ordinary skill in the art at the time of the invention was made to integrally attach the hydraulic pressure tube **38** of Kirii et al. to the module body **16**, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. Patent. 164 (1893).

Kirii et al. fail to teach a plurality of pneumatic pressure source connected to the hydraulic fluid tube for applying a positive pneumatic pressure to the main piston, but the Examiner takes an Official Notice that utilizing a plurality of pneumatic pressure source connected to the hydraulic fluid tube for applying a positive pneumatic pressure to the main piston is old and well known in the art and utilizing the pneumatic pressure source on the device of Kirii et al. for applying a positive pneumatic pressure to the main piston would have been obvious to one of the skill in the art at the time of the invention was made.

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham, 2 USPQ 2d 1647 (1987)*.

11. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al. in view of Seki et al. and Kobelt.

Kirii et al. teach a device comprising a module body containing a plurality of cylinders formed therein, a fluid reservoir formed in the module body and containing a main piston therein; a plurality of pistons integrally connected to rods and slidably fitted into the plurality of cylinders such that the rods can extend from a surface of the module towards the workpiece upon sliding of the piston within the cylinders; control valve connected between the fluid reservoir and the first manifold for controlling the flow of fluid therebetween; and a pressure source connected to the fluid reservoir for providing pressure to the main piston. (Fig. 4)

Kirii et al. fail to teach: the lower portion of the plurality of cylinders being connected by a first manifold and the upper portion of the plurality of cylinders being connected by a second manifold; a fluid reservoir containing a floating main piston; a valve assembly comprising a one-

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way check valve and a pneumatic control valve in parallel combination; a first pneumatic pressure source connected to the fluid reservoir for providing pressure to the main piston; and a second pneumatic pressure source connected to the second manifold.

Seki et al. al. teach the lower portion of the plurality of cylinders being connected by a first manifold 37 and the upper portion of the plurality of cylinders being connected by a second manifold 28; a floating piston 11 ; and a second pneumatic pressure source 27 connected to the second manifold. (Fig. 1)

Kobelt teaches a valve assembly comprising a one-way check valve 40 and a pneumatic control valve 31 in parallel combination.(Fig. 1; col. 1, lines 52-55)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the device of Kirii et al. by : connecting the plurality of cylinders with a first manifold and by connecting the upper portion of the plurality of cylinders with a second manifold ; changing the main piston to a floating piston ; and connecting a second pneumatic pressure source to the second manifold, as taught by Seki et al. so as to provide a die cushion apparatus in which not only a die cushioning capability can be precisely controlled but also a die cushioning capability during a working process can be variably controlled; and further utilizing a valve assembly comprising a one-way check valve and a pneumatic control valve in parallel combination, as taught by Kobelt so as to provide a fluid control circuit which employs a single energizing volumetric accumulator actuated from a plurality of stations.

Regarding a fluid reservoir integrally formed in the module body, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to integrally forming the fluid reservoir 38 of Kirii et al. to the module body 16, since it has been held that

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forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. Patent. 164 (1893).

Regarding a first pneumatic pressure source, the Examiner takes an Official Notice that utilizing a pneumatic pressure source on a pressing device is old and well known in the art and utilizing the pneumatic pressure source on the tooling fixture of Kirii et al. would have been obvious to one of the skill in the art at the time of the invention was made.

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ 2d 1647 (1987).

12. Claims 46-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al.

Kirii et al. teach a method of supporting a workpiece, comprising the steps of: providing a tooling fixture proximate the workpiece, the tooling fixture comprising: a support module body (14,16) having a plurality of moveable pistons (24) fitted in a plurality of cylinders(26) formed therein, the pistons being capable of extending through the top of the module body to connect the workpiece; and applying pressure to a piston contained in a fluid reservoir connected to the cylinders to move the piston and force fluid from the reservoir into the cylinders to force said pistons to emerge from the cylinders until they contact the workpiece. (Fig.1).

Kirii et al. fail to teach the step of applying pneumatic pressure to a piston contained in a fluid reservoir connected to the cylinders.

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Official Notice is taken that step of applying pneumatic pressure to a piston contained in a fluid reservoir connected to the cylinders is old and well known in the art and utilizing the pneumatic cylinder on the tooling fixture of Kirii et al. would have been obvious to one of the skill in the art at the time of the invention was made so as to control the cylinder movement.

13. Claims 53,54, 61, 62, 64, 67and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al. as applied to claims 51, 65 and 66 above, and further in view of Yamanaka et al. (U.S. Patent 4,170,971).

Kirii et al. fail to teach a source of vacuum connected with a fixed volume container for applying negative pneumatic pressure to the fluid and sir supply valve and a vacuum supply valve.

Yamanaka et al. teach a source of vacuum connected with a fixed volume container for applying negative pneumatic pressure to the fluid and sir supply valve and a vacuum supply valve.(claim 1)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the fixture of Kirii et al. by adding source of vacuum connected with a fixed volume container for applying negative pneumatic pressure to the fluid and sir supply valve and a vacuum supply valve, as taught by Yamanaka et al. so as to increase the productivity by providing a tooling fixture that conforms to an uneven surface without having been configured beforehand.

Regarding claims 61 and 62, it has been held that a recitation with respect to the manner in

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which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Exparte Masham, 2 USPQ 2d 1647 (1987)*.

It is noted that Kirii et al. fail to teach the piston with sealing rings. However, the examiner takes Official Note that it is conventional to make pistons with sealing rings, and to do so would have been obvious to one of ordinary skill in the art

It is noted that Kirii et al. fail to teach a selected one of a plurality of valves is held closed so that cylinders connected with the selected valve are disabled. However, the examiner takes Official Note that it is conventional to close a selected one of a plurality of valves is held closed so that cylinders connected with the selected valve are disabled, and to do so would have been obvious to one of ordinary skill in the art.

14. Claims 70 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirii et al. in view of Kurashima et al. (U.S. Patent 5,382,805).

Kirii et al. teach a fixture block, comprising:
a manifold section,; a cylinder section mounted to the top surface of the manifold section, the cylinder section including a plurality of cylinder holes therethrough, a top section mounted to a top surface of the cylinder section; and a plurality of pistons slideably disposed in the cylinder holes, ends thereof extending through holes in the top section (Fig. 1) .

Kirii et al. fail to teach the manifold section including a groove along a top surface thereof and an outlet hole on an end thereof intersecting the groove and the cylinder holes being aligned with the groove,

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Kurashima et al. teach the manifold section including a groove along a top surface thereof and an outlet hole on an end thereof intersecting the groove and the cylinder holes being aligned with the groove (claim 11).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the tolling fixture of Kirii et al. by adding the feature of Kurashima et al. so as to achieve a firm connection between the two parts.

Allowable Subject Matter

15. Claims 81-114 are

16. Claims 16,25,28,29 and 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. Claim 55 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John C. Hong whose telephone number is 703-305-0779. The examiner can normally be reached on M-F(07:00-16:30)First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1784. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J. Hong', with a stylized, cursive script.

John C. Hong
Primary Examiner
Art Unit 3726

jh
July 22, 2004